

ABSTRACT OF THE DISCLOSURE

A catheter has a three-dimensional, hollow ablation assembly that carries at least one ribbon electrode for circumferential ablation. In one embodiment, the assembly has a free-form framework that is constructed of multiple tensile members or wires that are interwoven such that the length of the framework increases while the circumference of the framework decreases, and vice versa. The assembly can also have a self-expanding stent-type framework which is mounted on the expander. In another alternative embodiment, the framework is a tubular or cylindrical structure whose side wall has longitudinal slots between longitudinal slats for radial expansion to a greater circumference when the length is decreased. The flexible ribbon electrode on the assembly is elastic, or is pleated so that it folds when the framework is collapsed and unfolds when the framework is deployed.